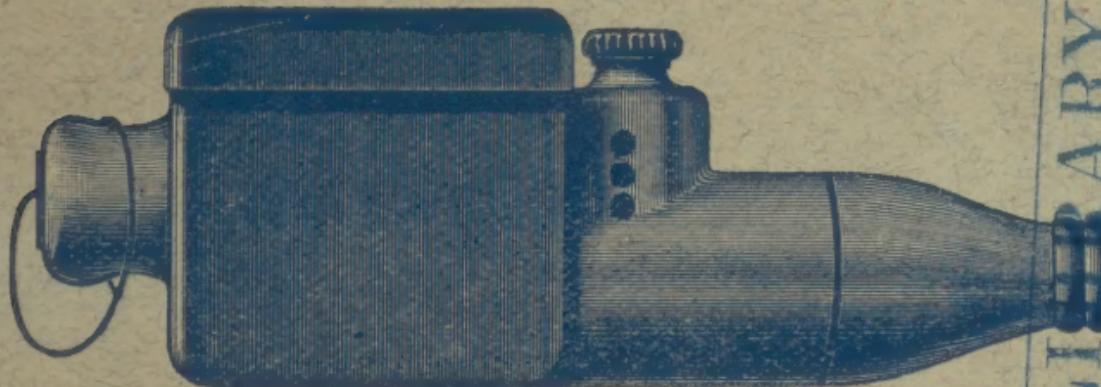


DENISON (Chas.)

The In-and Exhaler



The Denver Surgical Instrument Company,
(INCORPORATED)

1405 STOUT ST., - DENVER, COLO.

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617,

. . . THE AIR-PRESSURE . . . **INHALER AND EXHALER***

BY CHARLES DENISON, A. M., M. D.

DENVER, COLORADO.

PROF. OF DISEASES OF THE CHEST AND OF CLIMATOLOGY, MEDICAL COLLEGE
UNIVERSITY OF DENVER.

Author of "The Rocky Mountain Health Resorts,"
"Climates of the United States in Colors,"
"Exercise for Pulmonary Invalids," etc.

To fully describe its uses, the name of this new device should be The Adjustable Air-Pressure Expirator, Inspirator and Inhaler; but a briefer title is preferred. The adjustable control of the air-pressure within the lungs is its chief merit, for both individuals and respiratory diseases are never exactly alike, and adjustability to the needs of each is a *sine qua non* of success in treatment.

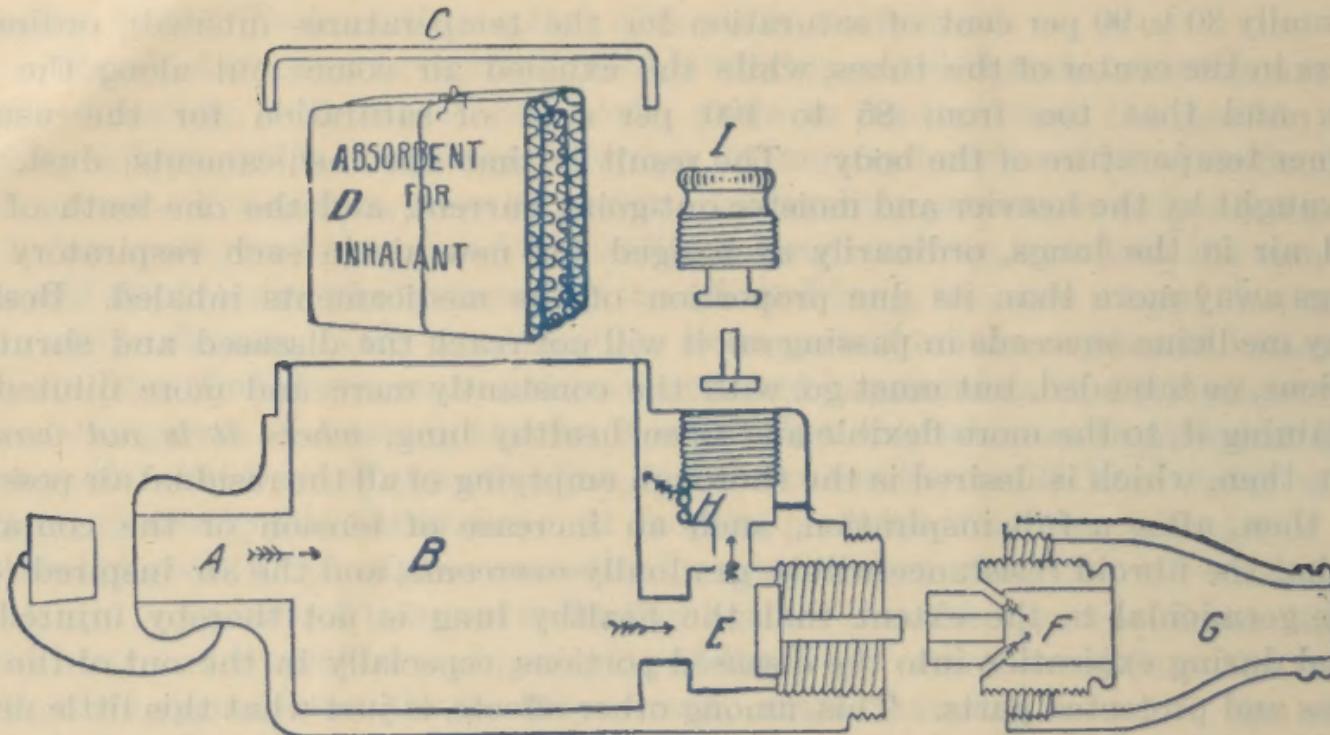
The pathological changes which make different air-pressures within the

[*Reprinted from the "New York Medical Record," February 10, 1894.]

lungs essential to the cure of chronic diseases, especially consumption, are very interesting, but at the same time rather difficult to understand.

The chief element to be considered is what is called fibrosis, which is nature's means of healing, designed to bridge over, paste in and protect the portion damaged by inflammation, mechanical injury or the encroachments of tubercle bacilli or other germs. Yet nature, once started in her healing process, is either too generous in her work, or, if unopposed by healthful lung exercise, overdoes the remedial part, and the fibrosis, which closes up the affected lung, becomes a most important factor of the disease. This consideration becomes a forcible argument when we recognize this fibroid-process as nature's means of imprisoning, in the form of "tubercles," the germs of consumption; for it seems that only when so imprisoned, if not thrown off in the form of expectoration, are the tubercle bacilli kept from multiplying and re-infecting the system. It is quite probable that the pressure of this new fibroid growth upon these capsulated germs renders them for the time-being latent, i. e. incapable of increase or further harm. But this process closes the affected lung, and starvation and poisoning of the blood must ensue from the resulting lack of oxygenation. On the other hand, when (keeping in mind the above hardening or shrinkage process) we consider the mechanical conditions governing the ingress and egress of air in respiration, we are impressed with the utter uselessness of inhalations of medicines as ordinarily practised, except for diseases in the

extreme upper air tract. It is capable of demonstration that the inhaled air (which is usually 30 to 90 per cent of saturation for the temperatures inhaled), ordinarily enters in the center of the tubes, while the exhaled air comes out along the borders; and that too from 85 to 100 per cent of saturation for the usually warmer temperature of the body. The result is that the medicaments, dust, etc., are caught by the heavier and moister out-going current, and the one-tenth of the total air in the lungs, ordinarily exchanged for new air in each respiratory act, brings away more than its due proportion of the medicaments inhaled. Besides, if any medicine succeeds in passing on, it will not reach the diseased and shrunken portions, as intended, but must go, with the constantly more and more diluted air containing it, to the more flexible and open healthy lung, *where it is not wanted*. That, then, which is desired is the thorough emptying of all the residual air possible, and then, after a full inspiration, such an increase of tension of the contained air that the fibroid resistance will be gradually overcome, and the air inspired (only made germicidal to the extent that the healthy lung is not thereby injured), is forced during expiration into the diseased portions, especially in the out-of-the-way apices and protected parts. This, among other effects, is just what this little device is calculated to do and can nicely accomplish. Its mechanism is apparent from the following description, the accompanying cut giving the actual size of the instrument as made wholly of hard rubber by the Denver Surgical Instrument Company.



The air enters through the nozzle "A," which is purposely made for the possible attachment of a rubber tube connected with an oxygen tank, any desired vaporizer or gas generator. In the box "B," covered by the cap "C," is the absorbent "D," a coil of corrugated blotting paper wound by wire to be a little smaller than the inner calibre of the box, or some loose absorbent wool or light muslin gauze may be substituted. This serves to hold and gradually disseminate the various combinations of germicidal and healing oils, or other evaporating substances, which are intended to be used in this process.

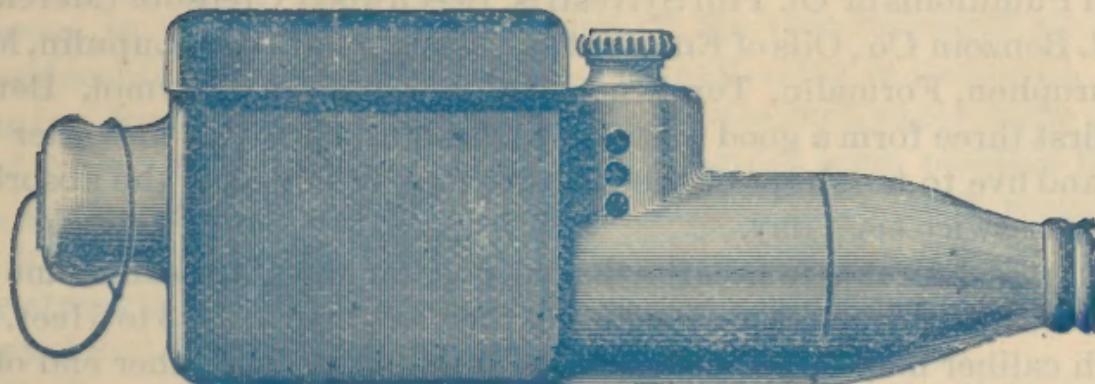
There is an inlet valve at "E," controlled by screw-head "F," which can be reached by unscrewing from the instrument the mouth-piece "G." This inlet valve closes with expiration, so that the exhaled air goes off through the exit valve "H," which in turn is made adjustable by screw top "I." This adjustable exit valve is the chief feature of this device. For ordinary use the inlet valve "E" needs to be from 5-10 to 9-10 open, while the exit valve "H" should be only from 1-10 to 5-10 open; but there are a number of combinations which will be found to suit individual cases and diseased conditions. The tension of the air is increased at will, from an easy to a more difficult use of the instrument, according to the need and ability of the patient.

In known or suspected bacillary and fibroid disease of the lungs, viz., in the various combinations of those processes which characterize the first stage of consumption, the needed thorough ventilation and cleansing (by the antiseptic inhala-

tion) of all parts of the lungs can be accomplished by the systematic practice of breathing with this instrument with the valves closed as nearly to the limits just named as can be comfortably borne by the patient. If there is pain, active inflammation or recent hemorrhage or pleurisy, these limits (5-10 for the inlet and 1-10 open for the outlet valve) should not at once be attempted; and the times of practice, too, can vary according to the invalid's ability—usually three to five minutes out of each hour, when not otherwise engaged during the waking hours, being a good rule to follow.

The inhaler is not intended merely for transient or temporary use, but for *permanent, continuous* influence. It is purposely made small and compact, so as to be easily carried in the pocket, and ready for frequent inhalations and exhalations. The contracting and gluing up tendencies of affected air cells or tubes find constant and needed opposition in the proper use of this device. The medicine need not necessarily be renewed more than once a day, or it may be enlivened every little while by dropping a little alcohol on the absorbent in the box. The respirations, after emptying the lungs, should be *long, full inspirations through the inhaler, and then forcible expirations through the instrument, continued till the lungs are as nearly emptied as possible.* Where there are catarrhal softenings, excavations, or ulcerations, or the use of the Inhaler causes pain, the limits named can be gradually reached and at first the strength of the medicament lessened.

Use in Chronic Tum. Disease.



DENVER SURGICAL INST. CO. PAT'D JAN. 26, '97.

Uses in Chronic Lung Diseases.

For uses in chronic lung diseases different combinations of some of the following have been experimented with and have proved very satisfactory: Menthol, either the Ol. Pini Pumilionis or Ol. Pini Sylvestris, Beechwood Creosote (Merck's), Phenosalyl, Tinct. Benzoin Co., Oils of Eucalyptus, Cloves, and Cedar, Lupulin, Mono-chlorophenol, Euophen, Formalin, Terebene, Camphor-chloral, Thymol, Beta-Naphtol, etc. The first three form a good basis for incorporating any of the other or like ingredients, and five to ten drops of the mixture may be added to the absorbent in the inhaler once or twice each day.

When it is desirable to breathe the out-door air and at the same time the patient remain in a warm room, as in very cold weather, a rubber tube 3 to 6 feet. long and of $\frac{1}{2}$ or $\frac{1}{3}$ inch caliber may be slipped over the inlet nozzle, the other end of which is thrust out of the partially raised window, while the breather uses the inhaler inside. The expanding and strengthening influence of the cold air is thus added to the benefit of the inhaled medicine.

For *Bronchitis* a variety of combinations of antispasmodics with anodynes and soothing essential oils, (Oleoresin of Lupulin, Pinol, Chloroform, Camphor, Acetic Ether, etc.), will suggest themselves as beneficial, according to the nature and severity of the case; the probability of there being no fibroid complication

rendering it less necessary to use a close exit valve. Sandal wood oil in proportion of three drops to thirty minims of alcohol has been tried with benefit.

For *Asthma*, in which inspiration is especially difficult, the adjustment of a free inlet and a partly closed exit valve, with the use in the box of such antispasmodic, soothing and relaxing agents, as indicated, should be very beneficial; while for *Emphysema*, in which condition the relief of the over-distended air cells is desired, a considerably closed inlet and wide open exit valve is indicated.

For *Angina Pectoris*, and allied affections, where such vaporizable substances as Nitrite of Amyl, etc., are indicated, it would hardly seem possible that a more convenient, economical and suitable means of administering such remedies could be devised; for, shut up in the box, the vapors need be inhaled only so much as desired. The strength of a solution used, on a little absorbent cotton or wool in the box, has been Amyl Nitrite one drop to Alcohol thirty minims.

The further possible uses of this new instrument, where antiseptic or germicidal vapors are needed to be held under control and inspired as indicated, are confidently left to abide the results of experiments which will probably be made as opportunities offer.

In the treatment of *Consumption*, however, the author has found this method decidedly helpful to other means of treatment, favoring a desirable condi-

tion of asepsis in the lungs, cleansing and clearing out concealed diseased spots, increasing the ventilation of the affected lung, and augmenting, through the increased pressure produced, the process of haematosis.

"How is it, Doctor, that I sleep so much better since the commencement of the treatment?" asked a lady with a considerable cavity and abundant fibroid protective material around it.

"Perhaps it is because you absorb so much more oxygen by using the inhaler," was the reply given.

This increased oxygenation and opening up of usable air-cells, when the instrument is properly used, is so different from the seeming closing up and suffocation effect of some other methods of treatment, especially of lately much vaunted "cures" so called, that one is compelled to conclude that any method of treatment must indeed be faulty which does not take into consideration the general fibroid contracting tendency in the healing lung. Several patients have increased their spirometrical records one fourth and their manometer records one eighth in three to six weeks by the assiduous use of this *Inhaler* and *Exhaler*.

An interesting test to show that the inhaled vapors, under forcible but impeded expiration, do reach the outer-most parts of the lungs, can be tried by simply saturating the absorbent in the box with alcohol, and then freely using the inhaler as directed. One thus gets the full benefit of the stimulant diffused throughout his

breathing space. Through the operation of this forcible expiration he feels the muscular contraction of the diaphragm first, and then the restrained air in the lungs seems to be, as it undoubtedly is, driven successively into the lung periphery and apices. The somewhat reddened face of the experimenter, indicates whether the force of the expiratory effort is sufficiently prolonged and powerful. The *persistant* and *regular continuance* of this exercise is what is desired; for the chief object in the use of this inhaler is to gradually bring about a return of the natural elasticity which has been annulled or destroyed by the exudation, the lack of use (muscular atrophy) and the healing process (new connective tissue contraction) which are three important factors in lung tuberculosis or consumption.

The hope is entertained that this little device may prove to be a valuable means of lung development in feeble chested youths, the chief agency employed in the cure of very many chronic lung diseases and bronchial catarrhal affection, and to favor the arrest, more or less prolonged, of slowly progressing but advanced consumption.

DIRECTIONS AND PRESCRIPTIONS.

1. The usual time for inhaling is from three to ten minutes in each hour of the day, varying for individuals, diseases and vigor of use. In **Chronic Pulmonary Diseases** the exit valve should ordinarily be screwed down to get as much resistance as can comfortably be borne during long and forceful *inspirations and expirations*.

2. In complicated cases (tubercular lung disease involving shrinkage and catarrhal disease of the head), the two methods may be alternated, or the two inhalants mixed half and half and nose-piece used; but the lung disease is better treated with the mouth-piece.

3. Either inhalant, especially that for lung use (amber bottle, A), may be made weaker, for some very delicate cases, by adding equal parts alcohol and Oil Eucalyptus.

4. Either inhalant (especially the blue bottle, B), can be made stronger by adding 10 to 20 per cent of Oil of Peppermint; or $\frac{1}{2}$ per cent Oil Mustard, if very stimulative effect is desired; or $\frac{1}{2}$ per cent Fonaline if increased stimulative and antiseptic effect is wanted.

5. For *Spasmodic, irritant or persistent cough* add to lung inhalant (amber bottle, A), 10 to 30 per cent of the following Rx.: Chloroform, Ether, Spts. vini rect. Ol. Eucalyptus aa. $\frac{1}{2}$ drachm Oleo Res. Osha-ine gtt. x. Eucaine gr. x. Mx. Sig. C. Inhalant: or add 3 to 6 drops of it to same absorbent.

6. For *Whooping Cough* add to $\frac{1}{2}$ C. inhalant and $\frac{1}{2}$ A, (blue bottle) inhalant Resorcin to saturation.

7. For *Asthmatic Cough, Hay Fever Cough*, etc., add to equal parts C. and B. about 2 per cent Nitrite Amyl.

8. For *Spasmodic Asthma, Angina Pectoris* and *Spasmodic or Epileptaform Seizures*, use temporarily and sparingly the following Rx.: Eucaine, grs. xii., Oleo resin Lupulin, Amyl nitrite aa. Minims x, "A. C. E.," Chloral Camphor, Ol. Pini. Pumilionis, aa. $\frac{1}{2}$ drachm, Mix Sig. D. Inhalant.

9. To make fresh absorbents cut strips of white blotting paper, 3 inches long and $\frac{1}{4}$ of an inch wide. Fold it so as to corrugate it crosswise; saturate it and put it in the medicament box; the cover will hold it down.

PRICE LIST.

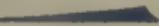
The In-and Exhaler complete with Inhalant , (for lung use, amber bottle), absorbents and descriptive pamphlet, complete in box, is delivered by mail on receipt of	\$3.00
Additional for nasal inhalant (blue bottle), and nose-piece ,	.1.00
Extra Bottles of either Inhalant, each,	.50
The In-and Exhaler , without Inhalant, etc.,	2.40
Additional for nose-piece	.50

Liberal Discount to the Trade.

[Physicians ordering in half-dozen lots may deduct 25 per cent.]

Sent on receipt of price by

The Denver Surgical Instrument Co.,

1405 Stout Street 

Denver, Colorado.

The In- and Exhaler with Nose-Piece.

Adapted for relief of Hay Fever, Rose Cold; La-Grippe or cold in the head; Post Nasal Catarrh, with or without deafness and Middle Ear Complications; Hypertrophic Rhinitis or Pharyngitis; and Ozena; also Headache or Sleeplessness if complicated with or due to any of above.

The same principles apply to the valve work in this method, especially if the forcing of medicated air into or through the Eustachian tubes is desired, as in pulmonary uses; but usually a freer action of these (a more open exit valve) is necessary, i. e., the pressure during expiration need not be as great.

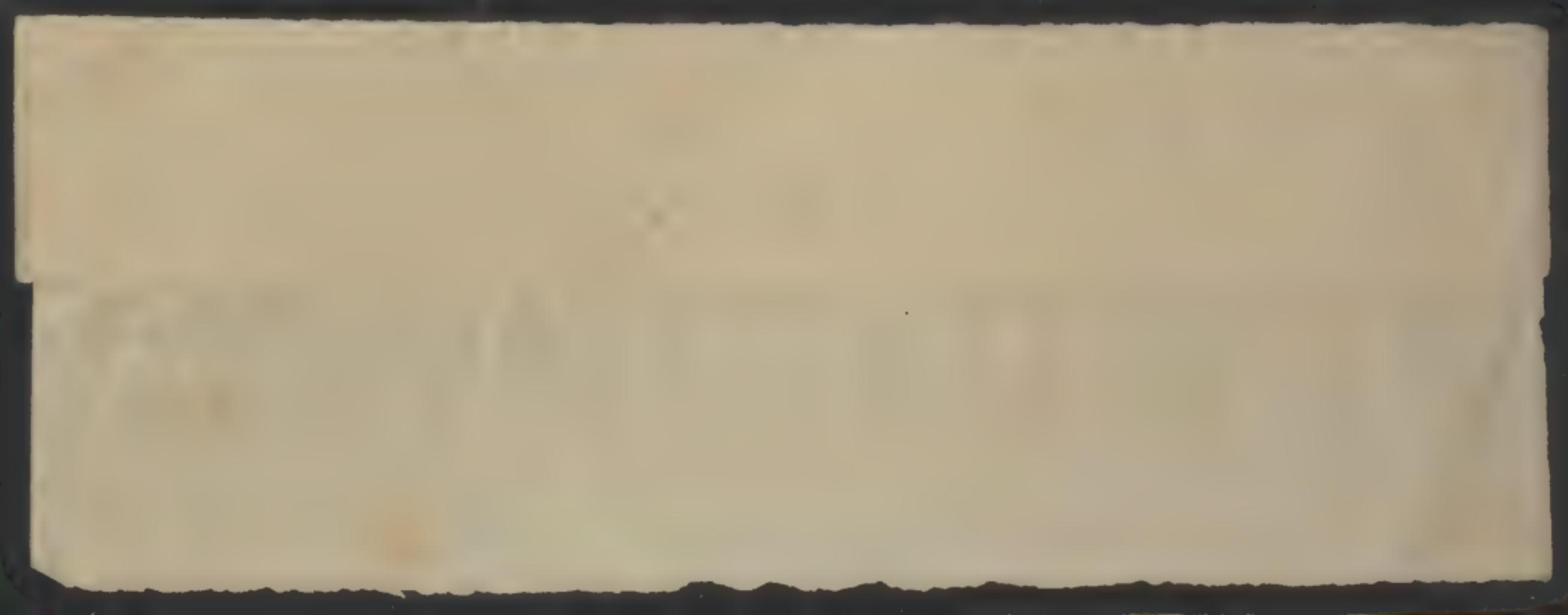
The Elastic Cord (X), when used around the head above the ears, permits a prolonged use if desired, without the hand being required to support the Inhaler. Thus even all night use is possible of such soothing Antiseptic and volatile oils as Von Heyden's Liquid Guiacol, Tyn-dale's Oil Eucalyptus or Merck's Pinus Pumilio. The Nasal Inhalant, which accompanies this nose-piece, combines various salts and chemicals, chiefly with these three for a base. It clears the head, soothes irritation and is antiseptic. Its prolonged use should induce drowsiness. It may be strengthened or changed to suit peculiar conditions. *See Prescriptions and Price List within.*



Onder de boekweken die, blykens de mededeling des Voorzitters in de zitting van jl Vrijdag,
bij de Tweede Kamer zijn ingetrokken, indien wij verstaan;
"van den schrijver H. C. A. L. Foek, med. d'ct. te Utrecht, o.a.:
"de Pietworsten en het middel om hem uit te dijven?"

Het Bijblad vermaakt niet wat de bedoeling is van de toerusting der Pietworstenstads. Zou
de schrijver de Kamer ons willen geven van de kwaliteit der citadel, van de beweringen? Of
vrees er bij hij dat onder de 80 steden er wellicht wel een of meer zullen zijn, die voor-
sorrigt bij zijn "uitdijven op middel" groot zullen staan en dan het voorstel
zullen doen om het gebouw op te rukken en de wet hier te schrijven?

Handelsblad v. Woensdag 11 Oct. 1876 bl. 14303: Allerle i



Wilhelmi, Dr., in Bandwurz. Die Spezialitaten
u. die Madenwürmer, der Yorkwurm ist vericab.
Wirken u. ihre beginn Entfernung. 8° (45 S.) Janu-
ar 1893, P. Klemann. 600 m - 50



Op welke wonderlijke en dwaze uitvindingen in Amerika patent wordt aangevraagd, kan men opmaken uit een artikelje in de *Newy. Med. Record*, met het opschrift: »Lintwormgevallen.« Een heel klein, aan een draad bevestigd werktuigje van goud, waar in het dekseltje eenige lokspijns ligt, wordt, aan een langen draad bevestigd, door den patiënt naar binnen geslikt. Ter gelegenheid wordt dan de lintworm door de lokspijns in het werktuigje gelokt, en wordt aldaar door middel van een door een veer in beweging gebracht moordtuigje gedood. Het werktuigje, dat nu den kop van den lintworm moet bevatten, wordt vervolgens aan den uit den mond hangenden draad te voorschijn gehaald. De geniale uitvinder heet Dr. Alphons Mijers, woonachtig te Logarsport, Indiana. Er ontbreekt nog maar aan, dat aan het werktuigje een electrisch uurwerkje wordt aangebracht, dat het indringen van den lintworm zou kunnen aankondigen.

N v/o dag 12 April 1884 1e Kl
Internationale Tainbouwtentoonstelling te
St. Petersburg

Hoe knap, hoe wonderbaar berekend zijne vertolking ook zij, hoe schoon zijn orgaan ook klinke, het ideaal van een Lohengrin-vertolker is hij voor mij niet. Verschillende oorzaken werken tot mijne niet-bevrediging mode. Ten eerste hapt Schott wat veel, een kwaal die ik bij de meeste Wagner-zangers heb opgemerkt. Zoolang nu spreek-melodie (vroeger genoemd Recitatief) op den voorgrond treedt, is deze wijze van uitdrukking geven aan de gemoedsstemming in overeenstemming met de compositie. In het verhaal van Lohengrin's afkomst, in het afscheid van Elsa, waarin deze wijze van muzikale bewerking gebruikt is, levert Schott het schoonste wat men van hem verwachten kan. In de oogenblikken zooals »athinest du nicht mit mir die holde Düst~~e~~^{te}« waar, naar ik meen, het lyrische, gezangrijke, in ouderen zin, meer merkbaar is, laat de voordracht veel onverschilliger; zelfs gingen zulke oogenblikken voorbij zonder merkbare verheffing der stemming bij de hoorders. Dit is Wagner's bedoeling, geloof ik, niet geweest, mannen als Hill, Scaria e. a. m. laten zulke oogenblikken niet ongebruikt, maar geven den toon wat den toon toekomt. In de tweede plaats blijft voor mijn oor een gebrek aan zuiverheid in de intonatie dezen zanger aankleven. Toen ik hem in zijne concerten hoorde, schreef ik dit toe aan indispositie, aan toevallige oorzaken, thans moet ik wel aanuemen dat het eenne blijvende zwakheid in het talent v.

In een zijner dagelijksche raadgivingen, beveelt Jean de Paris in den *Figaro* peterselie aan, als een middel tegen lintworm. Hij vond in een *Journal d'Hygiène* een verhaal van een driejarig meisje, dat op de natuurlijkste wijze van een lintworm bevrijd werd, door peterselie, welke zij enige dagen lang, zoo dikwijls zij gelegenheid vond, in den tuin harer ouders ging snoepen.

Er zijn niet zooveel middelen tegen deze lastige kwaal, dan dat men het met dit eenvoudige niet eens zou beproeven.

S van Noora-Holland wordt,
wegen aanhoudende onge-
steldheid, ter Overname aan-
geboden een CAFÉ van den
tweeden rang, naar den eisch
des tijds ingericht, met twee
Billards, hetwelk reeds 30 à
40 jaren heeft bestaan en een
rijk bestaan afwerpt. Zaak-
kennis geen vereischte. —
Eenige tijd assistentie wordt
verleend. Aanvaarding des-
verkiezende direct, Februari
of Mei a. ~~1873~~ ~~1874~~ ~~1875~~
Adres met franco brieven.

LUC

ET
Platte Grou

van de L.
»DE OO
te U/

Te verkrijgen

Zeedijk 87,

Per pakje f 6

f 0.70, per 50

100 stuks

In de *Gazette hebdomadaire de Médecine et de Chirurgie*, die te Parijs wordt uitgegeven, wordt door een van de redacteuren, professor *Lereboullet*, medegedeeld, dat in de laatste tijden veel meer dan vroeger, in Frankrijk, vooral de fatsoenlijke standen met lintwormen behebt zijt, hetgeen volgens ondervinding en door proeven, die genomen zijn, zijn oorsprong te danken heeft aan het gebruik van rund-, kalfs- en varkenvleesch, dat niet gaar genoeg gekookt of gebraden is geweest of soms geheel rauw genuttigd wordt.

Onder de vermelding van de veelvuldige middelen, die tegen die lastige kwaal gebruikt worden, wordt door de redactie met bijzonderen lof gesproken over de brochure van doctor *Fock* van Utrecht, en wordt het middel tegen den lintworm door hem daarin aan de hand gedaan als het doelmatigste van allen aangeprezen.

Groningen d^r. 11 aug. 1876.

reed maken. Of de heilige grimmige kerel) in zijne dwaasheid gelooft, dat de verrukking, waarin natuur hier een mensch pleegt te brengen, hem geheel ongevoelig maakt voor de rechten en eischen zijner maag, — ik vat het niet. Zeker is 't dat de keuken hier vrij slecht en de behandeling, op zijn zachtst gesproken, onminzaam is. Met het brutaalste gezicht, dat ooit een Ziegenkopf-bewoner vertoonen kan, prees hij ons (en anderen) zijne gansch niet onberispelijke spijzen en dranken aan, terwijl hij, heel onnoozel, ons bijna de helft meer in rekening bracht dan hem rechtmatig toekwam. Wij lieten hem hardop

Een apotheker te Aberdeen had in een kast op flesschen met alcohol lintwormen bewaard; op een stond »Lintworm van lord L., lid van het Parlement". De familie van lord L. liet den man sommeerden dat opschrift weg te nemen; de apotheker weigerde en de familie deed hem een proces aan. De apotheker won dat proces en plaatste nu op de flesch de uitspraak van den rechter.



LINTWORM onfeilbare
genezing
door de **pillen Secrétan**.
In de hospitalen van Parijs
geadopteerd. Hoofddepot SECRÉ-
TAN, Apotheker, 37 Avenue
Friedland, Parijs. Te 's Hage: SNABILIÉ, Apo-
theker, Buitenhof. (3874)

Stet Vlaerland dond 2 dec. 1880 40 285
Ente Blad

innen om, tegen verlies, de publieke zaak, geheel
verplicht, te blijven dienen, want dat het volkou en
tegenspraak is met hun oorsprong en levens-
estand, om geldelijke offers te brengen buiten den
ing van hun ontstaan, en dat de kapitalen in sommiger
zit geenszins bestemd zijn, om ten profijte van het
geueen te worden aangesproken.

Men ziet, er is, bij nader inzien, op dat goedkoop
schijnbaar zoo onschuldig en aannemelijk reddings-

herdenken en den 23n dezer [dit jubilé in de gemeente te herdenken.

CHR. GEREF. KERK.

Beroepen: naar Bodegraven G. De Braal, te Sliedrecht.

INGEZONDEN MEDEDEELINGEN.

(Prijs 50 cents per regel.)

LINTWORM. Wij bevelen de **Korrels** van SECRÉTAN ten hoogste aan. Zij zijn het eenig onfeilbaar middel, in de hospitalen van Parijs aangenomen, en hebben de voortplanting van den lintworm in Frankrijk geheel gestuit. Depot te 's Hage bij den Apotheker SNABILIÉ.

VAN VOLLENHOVEN & Cos.

STOUT

Hof Vordenborgh
17 aprile 1882
en 7 v. g. T. n. Bl

g, teeds vroeger vermeld.
De 1e luit. Th. Van Lilaar van het depot 1e reg. huzaren te Amersfoort wordt met 1 Mei a. s. overgeplaatst bij het 5e escadron te Zutphen en op dien datum gedetacheerd bij de Normaalschietsschool alhier.

Hedenavond, te halfacht, zal in de Groote Kerk alhier voor een aantal genoodigden de eerste bespeling van het nieuwe orgel plaats hebben.

Gisterenavond te 8½ uren brak er hier brand uit in de Tullinghstraat no. 12 ten huize van den meubelmaker G. Brusse, door het springen einer petroleumlamp in het achtervertrek, dat tot werkplaats diende. De vlammen, gevoed door een voorraad houtkrullen, spiritus enz., grepen onmiddellijk het geheele benedenhuis aan, zoodat de vrouw des huizes met haar kinderen evenals de bovenbewoners zich slechts met moeite konden reddenden. Hoewel men vreesde, dat het geheele huis zou uitbranden, gelukte het aan de brandweer om door het schielijk aanwenden van een